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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,413	05/04/2004	Yu-Jie Zhao	46863	3412

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JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

YU, MELANIE J

ART UNIT

PAPER NUMBER

1641

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/709,413	Applicant(s) ZHAO, YU-JIE	
	Examiner Melanie Yu	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-9 in the reply filed on 16 March 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3 and 4 recite a step of designing a plurality of probe molecules, wherein the term designing is vague. It is unclear what is meant by the step of designing, whether the probes are designed to be a specific type of molecule or whether the designing involves making the probes. Claim 1 also recites the phrase "spotting the probe molecules respectively", and it is unclear what is meant by respectively. It is unclear if respectively is intended to mean different probe molecules are spotted on to respective portions of the matrix or if the term means the probes are spotted onto the matrix onto respective positions.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Okamoto et al. (US 2003/0059817).

With respect to claims 1, 2 and 6, Okamoto et al. teach a method of fabricating a cell detection chip, comprising: designing a plurality of probe molecules, wherein an affinity exists between each of the probe molecules and one of corresponding specific molecules on a cell membrane (par. 0056); synthesizing a plurality of probe molecules (par. 0046, 0056); spotting the probe molecules respectively on a matrix (par. 0056); and incubating the matrix to keep the matrix under a wet environment (support stood in a humid chamber for 30 minutes, par. 0056). Okamoto et al. further teach the specific molecules being antibodies or antigens (par. 0066).

Regarding claims 4 and 5, Okamoto et al. teach designing probe molecules comprising a plurality of location indication probes (par. 0118) and the step of synthesizing the probe molecules, further comprising the step of dissolving probe molecules in a solvent to form a solution of the probe molecules (probe molecules are mixed in a solution, par. 0056).

With respect to claim 9, Okamoto et al. teach a spot diameter between 20 and 100 μm (par. 0033), which encompasses the recited range of a spot radius between 50 and 500 μm .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (US 2003/0059817) in view of Chen et al. (US 6,594,432).

Okamoto et al., as applied to claim 1, teach a method of fabricating a cell detection chip, but fail to teach the step of designing probe molecules further comprising designing a plurality of quality control probes.

Chen et al. teach using a plurality of quality control probes (col. 7, lines 10-22), in order to inspect microarrays after their formation.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the designing step of the method of Okamoto et al., designing a plurality of quality control probes as taught by Chen et al., in order to determine if probes have been deposited.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (US 2003/0059817) in view of Oprandy (US 5,200,312).

Okamoto et al., as applied to claims 1 and 6, teach a method of fabricating a cell detection chip and a step of cleaning after incubation (par. 0116), but fail to teach a step of drying after an incubation step and before cleaning.

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Oprandy teaches a step of drying (col. 4, lines 11-19), in order to store an antibody bound membrane for later use.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the method of fabricating a chip after the step of incubation and the step of cleaning of Okamoto et al., a step of drying as taught by Oprandy, in order to ensure the probe has completely bound to the matrix.

With respect to claim 8, Okamoto et al. teach after the step of cleaning, steps of: blocking portions of a surface of the matrix not spotted with probes, wherein a blocking solution is used (immersed in bovine serum albumin to proceed blocking reaction, par. 0116); and further cleaning the matrix (matrix is washed after hybridization reaction, par. 0118).

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Yu whose telephone number is (571) 272-2933. The examiner can normally be reached on M-F 8:30-5.

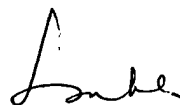
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melanie Yu
Patent Examiner
Art Unit 1641



LONG V. LE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

04/15/05